

ABSTRACT

The present invention relates to a method of cleaning a container having an amount of anhydrous ammonia contained therein. The container is first inspected thoroughly for leaks. Heated nitrogen gas is then fed into the container. The
5 heated nitrogen gas may be transported from a nitrogen storage tank to the container via at least one pipe. Liquid nitrogen may be fed into a vaporizer for vaporizing the nitrogen. The liquid nitrogen gas may then be heated via a heater, such as a steamer, to expand the nitrogen gas and ensure that no liquid nitrogen enters the container. The heated nitrogen gas may vaporize any liquid anhydrous ammonia contained therein. Further, the heated nitrogen gas may transport the anhydrous ammonia to a flare for incineration. The heated nitrogen gas may be added any number of times to reduce the concentration of the anhydrous ammonia therein to a desired level. The container may then be steam cleaned and opened to enter and thoroughly clean the inside of the container.

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JAN 23 2004

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE HONORABLE BOARD OF PATENT APPEALS AND INTERFERENCES

In re the Application of

SIVAVEC et al.

Group Art Unit: 3673

Application No.: 09/682,142

Examiner: Katherine W. Mitchell

Filed: July 26, 2001

For: PERMEABLE-REACTIVE BARRIER MONITORING METHOD AND
SYSTEM

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REPLY BRIEF

GROUP 3600

This Reply Brief is in response to the November 28, 2003 Examiner's Answer in the above-identified appeal.

The Examiner's Answer maintains the rejection of claims 1 to 35 and 44 to 66 under 35 U.S.C. §103 over the PRB paper and Misquitta and the rejection of claims 1 to 35 and 44 to 66 under 35 U.S.C. §103 over the Corps of Engineers paper(s) and Misquitta.

GROUP I - CLAIMS 1, 5, 15, 17 TO 22, 44 TO 46, 50, 51, 55 to 61 AND 63 to 65

A. Improper Combination of References

**(1) THE REJECTIONS ARE BASED ON
COMBINATIONS OF NONANALOGOUS ART
REFERENCES**

Appellants have argued:

The Misquitta reference relates to a pump-and-treat groundwater recovery system. In contrast to a passive, natural groundwater flow PRB method, [as claimed] a pump and treat method is designed to disrupt natural groundwater flow by diverting ground water to the above ground surface for treatment. A reference that teaches a disruptive pump-and-treat method is not "reasonably

pertinent" to a passive, natural flow method. The references are not properly combinable as analogous art. See *In re Clay*, 23 USPQ2d 1058, 1060 (Fed. Cir. 1992).

Further as pointed out in Appellants' Brief, page 2:

In contrast, a PRB is a passive method that depends upon "natural groundwater flow" for effectiveness. In a PRB, a barrier of reactant materials is placed in the path of a naturally spreading plume of groundwater contaminants. If the PRB is properly placed with respect to the spreading plume and if the PRB is properly oriented and designed, the barrier will effectively intercept the plume and impart a residence treatment time to adequately treat the plume contaminants before the plume has passed through the barrier. Appellants' specification states:

A PRB is designed to provide a set residence time for decontamination of the contaminated plume. The PRB design is determined by the concentration of contaminants, the natural groundwater flow and the degradation rate for the contaminants in the presence of the PRB reactive material. A wide variety of chlorinated hydrocarbons, including chlorinated ethenes such as trichloroethene (TCE) and tetrachloroethene (PCE) and their products, dichloroethene (DCE) and vinyl chloride (VC), are effectively treated by this method, often at a significant cost savings when compared to conventional pump-and-treat alternatives.

Specification paragraph [0004].

The Examiner's Answer correctly cites *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443, (Fed. Cir. 1992) on analogous art. However, the Examiner's Answer incorrectly argues:

The field of endeavor for appellants' invention and that of The PRB Papers and The Corps of Engineers Papers and Misquitta is remediation of contaminated groundwater. Therefore, it is considered that the first part of the test is met and the art is analogous.

Examiner's Answer page 15.

This argument is incorrect. First, the PTO incorrectly paraphrases the *In re Oetiker* standard. *In re Oetiker* states: "In order to rely on a reference as a basis for rejection of an applicant's invention, the reference must either be in the field of *applicant's endeavor* or, if not, then be reasonably pertinent to the particular problem with which *the inventor* was concerned." *In re Oetiker*, 977 F.2d, *supra* at 1446, 24 USPQ2d, *supra* at 1445 (Fed. Cir. 1992) (emphasis

added). Second, "the field of endeavor of Appellants' invention is not "remediation of contaminated groundwater." Appellants *claim* "conducting a permeable-reactive barrier (PRB) treatment" (claims 1 to 22), sensing with respect to a "PRB zone" (claims 23 to 35), a system comprising "a PRB zone" (claims 44 to 65) and a "PRB zone" (claim 66). "Permeable-reactive barrier (PRB) treatment" is the "field of endeavor."

Further, the PTO argues:

If, however, it is considered that the references are not from the same field of endeavor, the second part of the test is considered to be met. The problem being solved by both appellants and Misquitta is the transmission of groundwater data from a monitoring well. No difference can be seen between appellants' well monitoring and the well monitoring in Misquitta.

Examiner's Answer page 15.

This argument is incorrect. The PRB problem of Appellants is to monitor and transmit a signal without disturbing natural groundwater flow through the PRB. Misquitta's pump-and-treat problem is only to transmit a signal after sampling without regard to disruptive wires and conduits. The problems are diametrically opposed. The Misquitta reference is not properly combinable with PRB references as analogous art.

(2) THE REJECTIONS ARE BASED ON IMPROPER COMBINATIONS OF REFERENCES WITHOUT REASON TO COMBINE

Appellants have argued that the PTO has applied combinations of references rejections without the "logical and rational" reasoning to support its determination (to reject on combined references *In re Lee*, 61 USPQ 2d 1430, 1432-1433, 277 F.3d 1338, 1342 (Fed. Cir. 2002).

The Examiner's Answer argues:

In response to appellants' arguments that a "technical teaching" has not been provided as required by *In re Lee*, 61 USPQ 2d 1430 (Fed. Cir. 2002), the examiner has read this case and cannot find anywhere within it the requirement for a "technical teaching".

Examiner's Answer page 14.

The Appellants' "technical teaching" statement is a short-cut reference to Appellants' *In re Lee*-based argument that a "cost" teaching is not the *In re Lee* required

...objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art [that] would lead that individual to combine the relevant teachings of the references." *In re Fritch*, 972 F.2d 1260, 1265, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992)

In re Lee, 61 USPQ 2d *supra* at 1434, 277 F.3d *supra* at 1343 (Fed. Cir. 2002).

"One of ordinary skill in the art" does not mean "cost," "operating conditions," "maintenance costs" or the like. "One of ordinary skill in the art" of the technology of passive reactive barrier treatment of groundwater would not have been led to combine a "pump and shoot" teaching disruptive technology by a "cost," "operating conditions," "maintenance costs" or the like teaching. The "art" is passive reactive barrier treatment of groundwater, not economics. The relevant art is a technical field, not an economic field. See Appellants' Brief pages 13 to 15 for Appellants' complete "technical" argument.

Further, the Examiner's Answer states:

As the Federal Circuit stated:

The examiner can satisfy the burden of showing obviousness of the combination only by showing some objective teaching in the prior art.: (citing *In re Fritch*, 23 USPQ 2d 1780 (Fed. Cir. 1992), underlining added). Lee at 1434.

Examiner's Answer page 14.

However, this purported quote is a misleading, incorrect statement. The correct *In re Lee* quote is that the PTO must provide an:

...objective teaching in the prior art, or that knowledge generally available to *one of ordinary skill in the art* [that] would lead *that individual* to combine the relevant teachings of the references. *In re Fritch*, 972 F.2d 1260, 1265, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992) (emphasis added).

In re Lee, 61 USPQ 2d *supra* at 1434, 277 F.3d *supra* at 1343 (Fed. Cir. 2002).

"[T]hat individual" refers to "one skilled in *the art*." "[O]ne skilled in *the art*" does not

mean one skilled in *an* art. Use of the definite article “the” refers to an antecedent invention art. See 35 U.S.C. §103(a) (obvious to “a person having ordinary skill in the art *to which said subject matter pertains*” (emphasis added)). The “cost” saving and “hazardous organic volatile contaminates” or “terrain” arguments of the Examiner’s Answer page 14, line 17 to page 16, line 10 would not have led one skilled in the art of “passive remedial barrier” treatments to combine references. Cost savings, “hazardous organic volatile contaminates” and “terrain” do not provide the required *In re Lee* objective teachings to combine references.

Further, the Examiner’s Answer states:

It should be pointed out that appellants have never addressed the motivation set forth in the rejection that Misquitta provides a means of obtaining accurate and dynamic readings of the groundwater parameters with a minimum of on-site manpower based on the use of in-well monitoring and remote wireless transmission of the readings.

Appellants never challenge the fact that Misquitta teaches safe and remote monitoring of possibly hazardous conditions. As set forth in *In re Lee*, objective teachings are set forth in the modifying reference which are not contraverted by appellants.

First, Appellants are unable to find this exact “accurate and dynamic readings” argument in any PTO office action. Further, Appellants do not understand this argument insofar as this argument is any different from the PTO’s “cost savings, “hazardous organic volatile contaminates” or “terrain” arguments. Appellants have responded to these arguments in every response filed since the beginning of prosecution on the merits. The Board’s attention is respectfully directed to Appellants’ March 31, 2003 Request for Reconsideration, page 4, line 5 to page 6, line 12.

The PTO must provide “logical and rational” reasoning to support its determination (to reject on combined references). *In re Lee, supra* 277 F.3d at 1342, 61 USPQ 2d at 1432-1433. In the passive PRB field, the “logical and rational” combining reasoning would be based in a suggestion to look to the disruptive “pump and treat” art (Misquitta for a solution to avoid monitoring that interferes with natural groundwater flow. The PTO has not provided an *In re*

Lee reason to combine teachings from the disruptive pump-and-treat method and system art with a critically passive PRB method and system teaching.

For all these reasons, the rejections under 35 U.S.C. §103(a) over the PRB paper(s) and Misquitta and the Corps of Engineers paper(s) and Misquitta should be overturned.

B. No *prima facie* Case.

Further even improperly combined, the references do not establish a *prima facie* case of obviousness of “in-well... wireless communications,” claims 1 to 22 or of “a transmitter associated with the sensor in well to wirelessly transmit a signal,” claims 44 to 65.

In response, the Examiner’s Answer states:

As pointed out and quoted in previous office actions, Misquitta teaches in-well monitoring and wireless transmission to a remote collector or monitor in Figs 5 and 10, col 6, lines 47-60, and col 8, lines 21-40 referring to Fig 8. Specifically, Col 8, lines 22-23 state “signal 410 from monitoring device 510 is transmitted by wireless means, such as radio waves.

Examiner’s Answer page 17.

This statement is misleading or incomplete. Misquitta teaches *only above ground* wireless transmission. The *claimed* invention is “in-well... wireless communications,” (claims 1 to 22) and “a transmitter associated with a sensor in well to wirelessly transmit a signal,” (claims 44 to 65), i.e. wireless in-well transmission. None of the references teaches or suggests the *claimed* invention.

(1) The Examiner’s Answer refers to Misquitta “Figs. 5 and 10.”

FIG. 5 of Misquitta shows a monitoring device 510 placed within monitoring well 400. The device 510 measures conditions within the well.

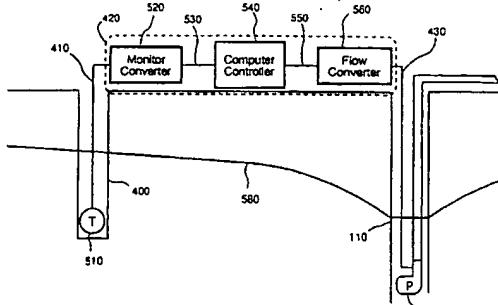


Figure 5

The information measured at 510 is transmitted as condition signal 410 to monitor converter 520, which converts condition signal 410 into digital signal 530. Computer controller 540 receives digital signal 530, and, in response to that signal, transmits flow signal 550 to flow converter 560, which converts flow signal 550 into control signal 430. Control signal 430 is transmitted to pump 570 located in groundwater extraction well 110 to vary the pumping rate of pump 570. Line 580 indicates the groundwater level in the aquifer. Figure 5 shows condition signal 410 transmitted by a conduit wire – not wirelessly.

Figure 10 is only a flow chart of signal processing.

Figures 5 and 10 do not teach or suggest wireless transmission from within a well as claimed in claims 1 to 22 and 44 to 65.

(2) The Examiner's Answer refers to Misquitta "col 6, lines 47-60."

In its entirety, Misquitta col. 6, lines 47 to 60 states:

Monitoring device 510 is placed within monitoring well 400 to measure conditions within that well. Such information may, for example, represent groundwater parameters such as the groundwater level or contaminant concentration located within the monitoring well. The information is transmitted as condition signal 410 to monitor converter 520 which converts condition signal 410 into digital signal 530. Computer controller 540 receives digital signal 530, and, in response to that signal, transmits flow signal 550 to flow converter 560, which converts flow signal 550 into control signal 430. Control signal 430 is transmitted to pump 570 located in groundwater extraction well 110 and varies

the pumping rate of pump 570. Line 580 indicates the groundwater level in the aquifer.

Condition signal 410 is a wire transmitted analog signal that is wirelessly transmitted *only* after conversion to a digital signal at 520. See for example, Misquitta col. 6, lines 61 to 66.

Misquitta "col 6, lines 47-60" does not teach or suggest wireless transmission from within a well.

(3) The Examiner's Answer refers to Misquitta "col 8, lines 21-40 referring to Fig 8."

In its entirety, Misquitta "col 8, lines 21-40 referring to Fig 8" states:

In yet another embodiment, shown in FIG. 8, condition signal 410 from monitoring device 510 is transmitted by wireless means, such as radio waves, to computer controller 540. Likewise, control signal 430 from computer controller 540 is transmitted by radio waves to pump 570. This embodiment is useful in sites where the terrain or cost mitigates against the use of laying down signal runs, for instance, electrical or optical, and thus permits the use of this invention under these constraints.

In particular, condition signal 410 is received by transmitter 810 and transmitted wirelessly, in a form such as by radio waves 820, to receiver 830. Receiver 830 converts the radio waves 820 back to condition signal 410 to be transmitted by wire to computer controller 540. After computer controller 540 calculates the new flow rate, it sends control signal 430 to transmitter 840 which transmits the signal wirelessly, in a form such as by radio waves 850, to receiver 860. Receiver 860 converts radio waves 850 back to control signal 430 and transmits control signal 430 to pump 570, which responds by changing its pumping rate.

For the Board's convenience, Misquitta figure 8 is reproduced as follows:

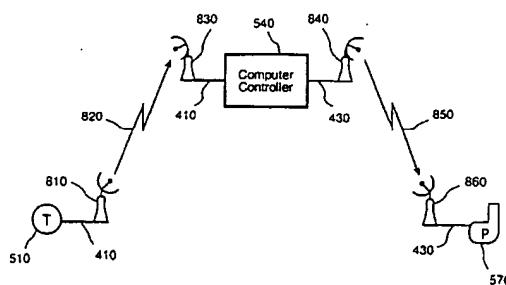


FIG. 8

The condition signal 410 is transmitted wirelessly only after it is received and converted by transmitter 810. Transmission from within the well is by wire as illustrated by straight line connection 410 contrasted to jagged line 820, which illustrates an above ground wireless transmission.

Misquitta "col 8, lines 21-40 referring to Fig 8" does not teach or suggest wireless transmission from within a well.

Misquitta teaches disruptive wires and conduits to transmit a signal from within a well. The references do not make out a *prima facie* case of obviousness of the claimed PRB "in-well... wireless communications," (claims 1 to 22) or "a transmitter associated with the sensor in well to wirelessly transmit a signal," (claims 44 to 65).

The rejections of claims 1 to 22 and claims 44 to 65 (all Groups) should be reversed.

GROUP V - CLAIMS 6, 26 AND 52

Claims 6 and 26 claim monitoring or sensing "by a plurality of in-well sensors arranged substantially along a transect ... defined by a \pm 20 feet wide horizontal plane that transcribes at least one up-stream monitoring well and at least one down-stream well at a level that is \pm 5 feet of an open screen interval mid point of each well." Claim 52 claims a system, wherein a transect is defined "by a \pm 20 feet wide horizontal plane that transcribes at least one up-stream monitoring well and at least one down-stream well at a level that is \pm 5 feet of an open screen interval mid point...."

The importance of sensor placement is described in the specification. Appellants point out in the specification that a PRB is designed to provide a set residence time for decontamination of the contaminated plume. A proper PRB design is determined by concentration of contaminants in the contaminant plume, natural groundwater flow and contaminant degradation rate within the PRB reactive material. The contaminant plume must be properly intercepted by the PRB and the effectiveness of the PRB must be precisely monitored.

Up-gradient and down-gradient sensors must be properly placed to provide a comparison of groundwater parameters such as pH, specific conductance, dissolved oxygen, oxidation-reduction potential, temperature and turbidity with parameters within the reactive material of the PRB. An up-gradient monitoring point provides a baseline measurement of groundwater characteristics before the groundwater comes in contact with the iron media. The monitoring points within the iron PRB indicate performance of the iron media. (i.e., any change in the reducing environment provided by the iron media as evidenced by pH, oxidation-reduction potential). The downgradient sensors function to monitor return of the groundwater to a natural state. For example, pH, oxidation-reduction potential and specific conductance can be measured and compared to values at an upgradient well to monitor barrier effectiveness.

According to an embodiment of the invention claimed in claim 6, 26 and 52 it has been found that an exacting PRB monitoring is provided "by a plurality of in-well sensors 12 arranged substantially along a transect ... defined by a \pm 20 feet wide horizontal plane that transcribes at least one up-stream monitoring well and at least one down-stream well at a level that is \pm 5 feet of an open screen interval mid point of each well."

The PRB papers, the Corps of Engineers paper(s) and Misquitta do not teach, suggest or appreciate the precise placement found by Appellants and recited in claims 6, 26 and 52 to provide effective barrier monitoring.

The Final Rejection states at page 4:

Pages 24-25 [of the PRB papers] teach a 6' wide PRB and teaches that the wells placed are along the upgradient face, the center, and the downgradient face, thus within 25 and 6 feet up-and down- gradient of the PRB and including wells within 2 feet of the PRB or within the PRB. A plurality of sensors 12 is taught in page 13, "Results" in that pH and VOC concentrations were measured, and page 37 paragraph 5 teaches water level monitoring, thus at least 2 sensors 12 were used.

and at page 6:

Examiner notes specifically Corps of Engineers papers section 8.2.1 on page 82 and page 81 section 8.1.2 and section 3.3.1 page 26. The Corps of Engineers papers teach up-gradient and down-gradient monitoring wells in paragraph 3

page 56. Fig. 8.1 teaches monitoring wells located along a transect of the PRB zone. A plurality of sensors 12 is taught in page 26, paragraph 2 and page 81 paragraph 2. Monitoring wells have an open screen interval to allow the monitored fluid to flow into the well, as disclosed the Corps of Engineers paper(s) section 8.

But the Final Rejection does not state that the references teach or suggest *the claimed* sensors 12 arranged along “a \pm 20 feet wide horizontal plane that transcribes... [wells] at \pm 5 feet [level] of an open screen interval mid point...” The Final Rejection rejects claims 6, 26 and 52 but fails to identify any disclosure of the PRB papers and Misquitta or of the Corps of Engineers paper(s) and Misquitta that teaches or suggests “a \pm 20 feet wide horizontal plane that transcribes... [wells] at \pm 5 feet [level] of an open screen interval mid point...”

Indeed, the PRB papers and Misquitta or of the Corps of Engineers paper(s) and Misquitta do not teach or suggest “a \pm 20 feet wide horizontal plane that transcribes... [wells] at \pm 5 feet [level] of an open screen interval mid point...” The PRB papers, the Corps of Engineers paper(s) and Misquitta do not establish a *prim facie* case of obviousness of claim 6, 26 and 52. *See In re Rijckaert*, 9 F.3d 1531, 1532, 28 USPQ2d 1955, 1956 (Fed. Cir. 1993).

Additionally, the rejections of claims 6, 26 and 52 are improper for the same “combination of references” argument to the rejections of the Group I claims 1, 5, 15, 17 to 22, 44 to 46, 50, 51, 55 to 61 and 63 to 65.

The rejections of claims 6, 26 and 52 should be reversed.

GROUP VI - CLAIM 7, 27 AND 53

Claims 7 and 27 claim monitoring or sensing “by a plurality of in-well sensors arranged substantially along a transect ... defined by a \pm 10 feet wide horizontal plane that transcribes at least one up-stream monitoring well and at least one down-stream well at a level that is \pm 3 feet of an open screen interval mid point of each well.” Claim 53 claims a system wherein a transect is defined “by a \pm 10 feet wide horizontal plane that transcribes at least one up-stream monitoring well and at least one down-stream well at a level that is \pm 3 feet of an open screen interval....”

The importance of sensor placement is described in the specification. According to an embodiment of the invention claimed in claim 7, claim 27 and claim 53, it has been found that an exacting PRB monitoring is provided “by a plurality of in-well sensors arranged substantially along a transect … defined by a \pm 10 feet wide horizontal plane that transcribes at least one up-stream monitoring well and at least one down-stream well at a level that is \pm 3 feet of an open screen interval mid point of each well.”

The PRB papers, the Corps of Engineers paper(s) and Misquitta do not suggest or appreciate the precise placement found by Appellants and recited in claim 7 and in claim 53 to provide effective barrier monitoring. Indeed, the PRB papers and Misquitta or of the Corps of Engineers paper(s) and Misquitta do not teach or suggest “a \pm 10 feet wide horizontal plane that transcribes… [wells] at \pm 3 feet [level] of an open screen interval mid point…”

The Examiner’s Answer does not respond to this argument. “When the reference[s] cited by the examiner fail to establish a *prima facie* case of obviousness, the rejection is improper and will be overturned.” *In re Deuel*, 34 USPQ2d *supra* 1214 (Fed. Cir. 1995). The references do not establish a *prima facie* of obviousness. The references do not teach or suggest claims 7, 27 or 53.

Additionally, the rejections of claims 7, 27 and 53 are improper for the same “combination of references” argument to the rejections of the Group I claims 1, 5, 15, 17 to 22, 44 to 46, 50, 51, 55 to 61 and 63 to 65.

The rejections of claims 7, 27 and 53 should be reversed.

GROUP VII - CLAIMS 8, 28 AND 54

Claim 8 and claim 28 claim monitoring or sensing “by a plurality of in-well sensors arranged substantially along a transect … defined by a \pm 6 feet wide horizontal plane that transcribes at least one up-stream monitoring well and at least one down-stream well at a level that is \pm 1 feet of an open screen interval mid point of each well.” Claim 54 claims a system with placement within a transect defined “by a \pm 6 feet wide horizontal plane that transcribes at least one up-stream monitoring well and at least one down-stream well at a level that is \pm 1 feet of an

open screen interval mid point of each well.”

Appellants have argued that the references do not teach or suggest monitoring or sensing “by a plurality of in-well sensors arranged substantially along a transect … defined by a \pm 6 feet wide horizontal plane that transcribes at least one up-stream monitoring well and at least one down-stream well at a level that is \pm 1 feet of an open screen interval mid point of each well.” Appellants have argued that the references do not teach or suggest a system with placement within a transect defined “by a \pm 6 feet wide horizontal plane that transcribes at least one up-stream monitoring well and at least one down-stream well at a level that is \pm 1 feet of an open screen interval mid point of each well.”

The Examiner’s Answer does not respond to this argument. “When the reference[s] cited by the examiner fail to establish a *prima facie* case of obviousness, the rejection is improper and will be overturned.” *In re Deuel*, 34 USPQ2d *supra* 1214 (Fed. Cir. 1995). The references do not establish a *prima facie* of obviousness. The references do not teach or suggest claims 8, 28 or 54.

Additionally, the rejections of claims 8, 28 and 54 are improper for the same “combination of references” argument to the rejections of the Group I claims 1, 5, 15, 17 to 22, 44 to 46, 50, 51, 55 to 61 and 63 to 65.

The rejections of claims 8, 28 and 54 under 35 U.S.C. §103 should be reversed.

GROUP VIII - CLAIM 9

Claim 9 claims “in-well monitoring… by in-well sensors arranged substantially along a transect to a PRB zone.” The “transect is defined by flow of contaminated aqueous medium.”

Appellants have argued that the references do not teach or suggest “in-well monitoring… by in-well sensors arranged substantially along a transect to a PRB zone” where the “transect is defined by flow of contaminated aqueous medium.”

The Examiner’s Answer does not respond to this argument. “When the reference[s] cited

by the examiner fail to establish a *prima facie* case of obviousness, the rejection is improper and will be overturned." *In re Deuel*, 34 USPQ2d *supra* at 1214 (Fed. Cir. 1995). The references do not establish a *prima facie* of obviousness. The references do not teach or suggest claim 9.

Additionally, the rejections of claim 9 is improper for the same "combination of references" argument to the rejections of the Group I claims 1, 5, 15, 17 to 22, 44 to 46, 50, 51, 55 to 61 and 63 to 65.

The rejections of claim 9 under 35 U.S.C. §103 should be reversed.

GROUP IX - CLAIM 10 TO 14

Claims 10 to 14 claim a step of "determining flow of contaminated aqueous medium up-gradient, down-gradient and transecting a PRB zone," "placing monitoring wells along the flow of contaminated medium" and "conducting the in-well monitoring with the monitoring wells."

Appellants have argued that the references do not teach or suggest "determining flow of contaminated aqueous medium up-gradient, down-gradient and transecting a PRB zone," "placing monitoring wells along the flow of contaminated medium" and "conducting the in-well monitoring with the monitoring wells."

The Examiner's Answer does not respond to this argument. "When the reference[s] cited by the examiner fail to establish a *prima facie* case of obviousness, the rejection is improper and will be overturned." *In re Deuel*, 34 USPQ2d *supra* at 1214 (Fed. Cir. 1995). The references do not establish a *prima facie* of obviousness.

Additionally, the rejections of claims 10 to 14 are improper for the same "combination of references" argument to the rejections of the Group I claims 1, 5, 15, 17 to 22, 44 to 46, 50, 51, 55 to 61 and 63 to 65.

The references do not teach or suggest claims 10 to 14. The rejections of claims 10 to 14 under 35 U.S.C. §103 should be overturned.

GROUP X - CLAIM 16

Claim 16 claims “determining nature, extent and velocity of a plume of contaminated aqueous medium.”

Appellants have argued that the references do not teach or suggest “determining nature, extent and velocity of a plume of contaminated aqueous medium.”

The Examiner’s Answer does not respond to this argument. “When the reference[s] cited by the examiner fail to establish a *prima facie* case of obviousness, the rejection is improper and will be overturned.” *In re Deuel*, 34 USPQ2d *supra* at 1214 (Fed. Cir. 1995). The references do not establish a *prima facie* of obviousness. The references do not teach or suggest claim 16.

Additionally, the rejections of claim 16 are improper for the same “combination of references” argument to the rejections of the Group I claims 1, 5, 15, 17 to 22, 44 to 46, 50, 51, 55 to 61 and 63 to 65.

The rejections of claim 16 under 35 U.S.C. §103 should be overturned.

GROUP XII - CLAIM 62

Claim 62 claims a system with “a two-way communicator between [a] collector and [a] sensor.” The “two-way communicator permits “selection, activation, de-activation, modification, fine-tuning, manipulation or resetting of the sensor.”

Appellants have argued that the references do not teach or suggest “a two-way communicator between [a] collector and [a] sensor.” The “two-way communicator permits “selection, activation, de-activation, modification, fine-tuning, manipulation or resetting of the sensor.”

The Examiner’s Answer does not respond to this argument. “When the reference[s] cited by the examiner fail to establish a *prima facie* case of obviousness, the rejection is improper and will be overturned.” *In re Deuel*, 34 USPQ2d *supra* at 1214 (Fed. Cir. 1995). The references do not teach or suggest claim 62. The references do not establish a *prima facie* of obviousness.

Additionally, the rejections of claim 16 are improper for the same “combination of references” argument to the rejections of the Group I claims 1, 5, 15, 17 to 22, 44 to 46, 50, 51, 55 to 61 and 63 to 65.

The rejection of claim 62 under 35 U.S.C. §103 should be reversed.

VII. CONCLUSION

The rejections are based on improper combinations of references. Further while the Office Actions and Examiner's Answer mention "key" words such as "transect," "wireless," "in-well" and "communication," the PTO fails to point out any disclosure in the references that teaches or suggests the Group I, Group V, Group VI, Group VII, Group VIII, Group IX, Group X or Group XII inventions *as defined in the claims*.

For all the reasons discussed above, it is respectfully submitted that the subject invention would not have been obvious to a person of ordinary skill in the art, at the time the invention was made, in view of the PRB paper and Misquitta or in view of the Corps of Engineers paper(s) and Misquitta. Appellants respectfully request this Honorable Board to reverse the rejections of claims 1 to 35 and 44 to 66.

Respectfully submitted,



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